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December 12, 2016

VIA ECFS

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

Re: Incentive Auction Task Force and Media Bureau Seek Comment on Post-Incentive Auction Transition Scheduling Plan, MB Docket No. 16-306;
Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions, GN Docket No. 12-268

Dear Ms. Dortch:

On December 8, 2016, representatives of T-Mobile USA, Inc. ("T-Mobile") met with representatives of the Federal Communications Commission's ("Commission's") incentive auction task force regarding the above-referenced proceedings. The following individuals participated in the meeting on behalf of T-Mobile: Mark Combs, Ilona Lindsay, Cody Hogan, and Chris Wieczorek, all of T-Mobile; Trey Hanbury, Hogan Lovells US LLP, counsel to T-Mobile; and Davina Sashkin, Fletcher, Heald, and Hildreth, PLC, counsel to T-Mobile. The following individuals participated in the meeting on behalf of the Commission: Shaun Maher, Media Bureau; Erin Griffith, Wireless Telecommunications Bureau; Dorann Bunkin, Media Bureau; Evan Morris, Media Bureau; Hillary DeNigro, Media Bureau; Mark J. Colombo, Office of Engineering and Technology; Kevin Harding, Media Bureau; Barbara Kreisman, Media Bureau; Joyce Bernstein, Media Bureau; Paul Malmud, Wireless Telecommunications Bureau; Rachel Kazan, Wireline Competition Bureau; Jean Kiddoo, Wireless Telecommunications Bureau; Gary Epstein, Wireless Telecommunications Bureau; Sasha Javid, Wireless Telecommunications Bureau; Michael Carowitz, Consumer and Governmental Affairs Bureau; and James Costa, Brian Smith, and Tony Coudert of the Incentive Auction Task Force.

During the meeting, representatives from T-Mobile discussed the comments T-Mobile filed in response to the Public Notice on the Commission's proposed approach to the post-incentive auction

transition scheduling plan (the "Transition Plan").¹ T-Mobile's representatives reiterated the company's support for the proposed Transition Plan and commended the Commission for its approach to making the 600 MHz band suitable for wireless broadband use.

T-Mobile's representatives identified several additional mechanisms the Commission might employ to promote a more efficient post-auction transition. For example, the Commission might encourage more extensive use of: (i) auxiliary antennas, (ii) temporary channels, and (iii) multicasting and channel-sharing opportunities. Properly implemented, these voluntary alternatives might accelerate the transition and put otherwise idle resources to work for the benefit of both broadcasters and broadband providers. T-Mobile's representatives also discussed how the Commission could clarify the limited scope of the prohibited communications rules for stakeholders involved in the transition process. For example, T-Mobile noted that discussions about the relocation process among restricted-party broadcasters or between restricted-party broadcasters and forward-auction participants cannot convey information about the broadcasters' bids or bidding strategies once the auction has satisfied the Final Stage Rule. By that stage of the auction, the broadcasters' auction participation is complete. Additional detail about T-Mobile's proposals appears in the attached presentation, which the parties reviewed during the meeting.

Under section 1.1206(b) of the Commission's rules, we are filing this letter electronically in the proceedings identified above. Please direct any questions about this letter to me.

Sincerely,

/s/ Trey Hanbury

Trey Hanbury

Counsel for T-Mobile USA, Inc.

Cc: Shaun Maher
Erin Griffith
Dorann Bunkin
Evan Morris
Hillary DeNigro
Mark J. Colombo
Kevin Harding
Barbara Kreisman
Joyce Bernstein
Paul Malmud
Rachel Kazan
Gary Epstein
Jean Kiddoo
Sasha Javid
Michael Carowitz
Brian Smith
James Costa
Tony Coudert

¹ See *Incentive Auction Task Force and Media Bureau Seek Comment on Post-Incentive Auction Transition Scheduling Plan*, Public Notice, 31 FCC Rcd. 10802 (2016), available at <http://bit.ly/2hvfJo4>.

Broadcaster Transition Process Improvements

12/8/16

Bringing More Resources to the Transition

- Over the last 12 months, T-Mobile has engaged in an extensive outreach effort among broadcasters and their equipment vendors in preparation for the Incentive Auction broadcaster transition.
- **Key findings from broadcasters:**
 1. Broadcasters are very attentive to the FCC's transition process but unsure about the specifics.
 2. Auxiliary facilities will likely be needed by most broadcasters and many may be used for an extended period of time.
 3. Many broadcasters will seek major modifications to their facilities.
 4. Broadcasters would like to sort through various transition issues at shared facilities but are worried about inadvertently violating the FCC's anti-collusion rules.
- **Key findings from broadcast vendors:**
 1. Equipment vendors are ramping up their capabilities but are still mostly idle and will likely be underutilized in 2017 under the FCC's current transition plan.
 2. Vendors would be willing to expand their resources if their currently idled capacity was put to work.
 3. Other capable vendors are interested in entering the broadcast market but uncertain about the business case under the FCC's current transition plan.

Improving the Transition Process

Flexibility – broadcasters can transition without causing excessive interference and can expand repacking resources.

- **No excessive inference** – transitioning broadcasters can use numerous techniques to limit interference to adjacent broadcasters to 2% or less.
- **Expanding resources** – broadcast vendors are mostly idle today. Putting them to work to build auxiliary facilities for broadcasters now (early 2017) would allow a quicker ramp up to full-scale repacking.

Techniques to prevent Excessive Interference

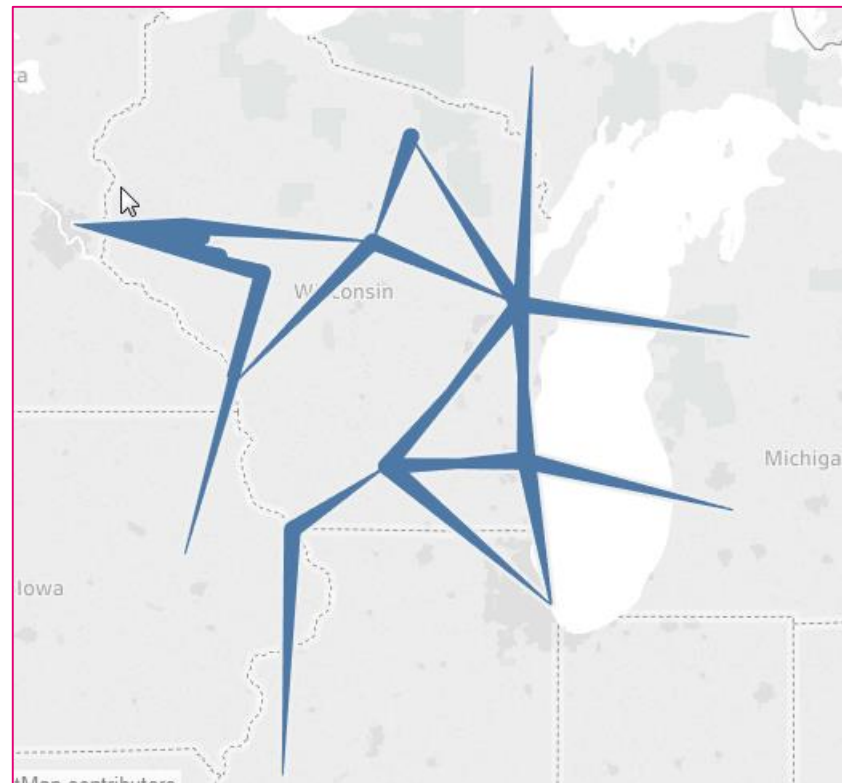
- T-Mobile supports the proposed 2% temporary interference limit.
- Techniques to prevent excessive interference include:
 1. Reduced power;
 2. Temporary channels (especially with modern broadband auxiliary facilities); and
 3. Interference agreements among broadcasters.

Example: Early Transition in Wisconsin

Overview on Wisconsin

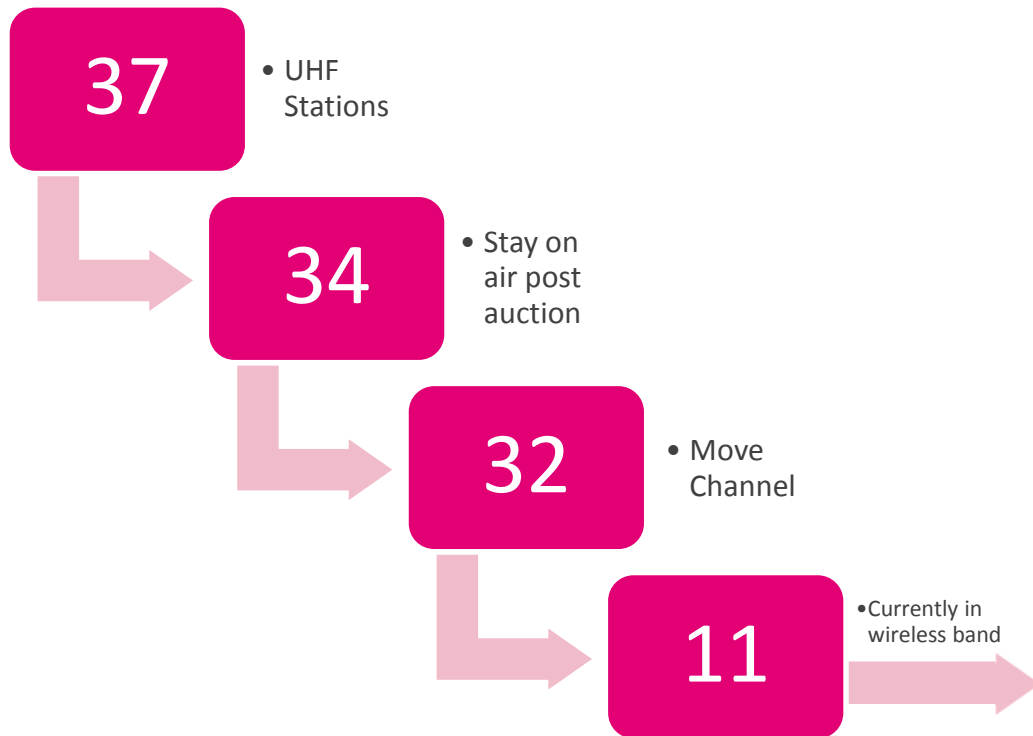
- Wisconsin studied because of proximity to large market of Chicago and numerous daisy chain opportunities
- Simulation Assumptions:
 - 84 MHz clearing target
 - Used FCC's 2014 simulation data, scenario 26
 - 2% interference threshold for temporary interference to other stations
 - Calculations via TVStudy

Wisconsin Daisy Chains Example

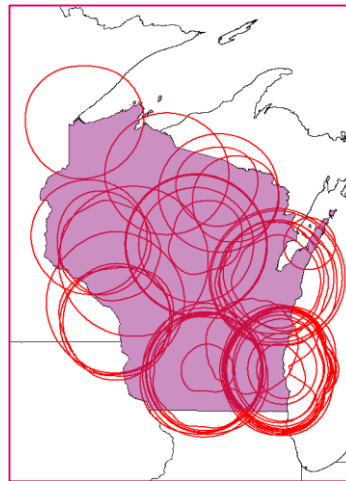


FCC 2014 Simulation, Scenario #26, 84 MHz

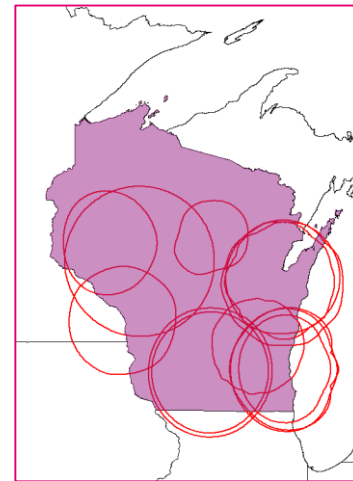
7



37 UHF Broadcasters



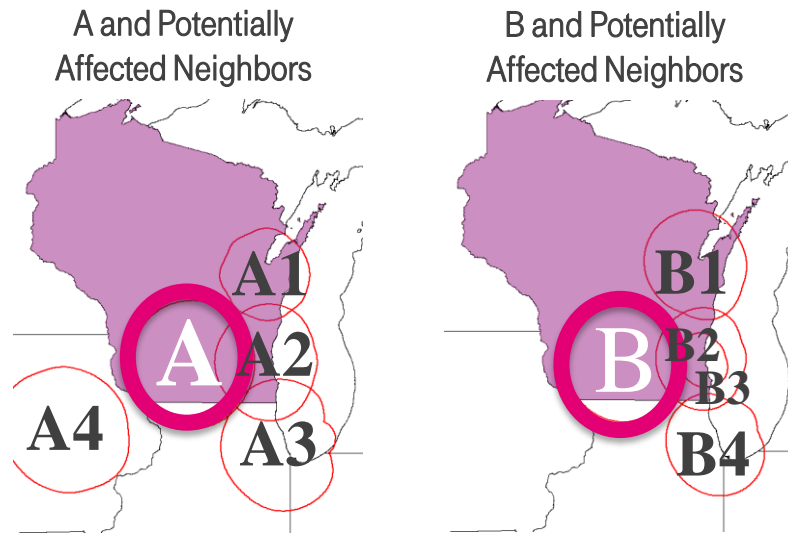
11 UHF Broadcasters
above Channel 37



The phase assignment tool has an objective to place these 11 broadcasters in earlier phases, but several of them could end up in later phases. With flexibility there are creative ways for those broadcasters in later phases to transition early without additional interference or

Case Study – Clearing Madison Wisconsin

- Situation: 2 broadcasters in Wireless band – A and B
 - A moving from CH 50 to CH 27
 - B moving from CH 49 to CH 21
- Dependencies before moving
 - A forms a Daisy Chain with A1
 - B has no dependencies to move
- Options to clear A immediately
 - Temp Channel: CH 19 available
 - Lower Power: Reduce ERP by 30 kW
 - A would knowingly tolerate temporary interference greater than 2% from A2 or need to lower power further
 - Interference Agreement: A1 agrees to temp interference at slightly higher than 2%



	A	B
Current Channel	50	49
Target Channel	27	21
Daisy Chains	A1	None
Options to break the daisy chain and move immediately		
Temp Channel	19	Not Needed
Lower Power	Reduce from 603kW to 570kW	Not Needed
Interference Agreement	A1 accepts 2.04% temporary interference	Not Needed

How does this impact the overall transition?

- **Result:**

- Cellular band in Madison cleared (independent of Phase assignment).

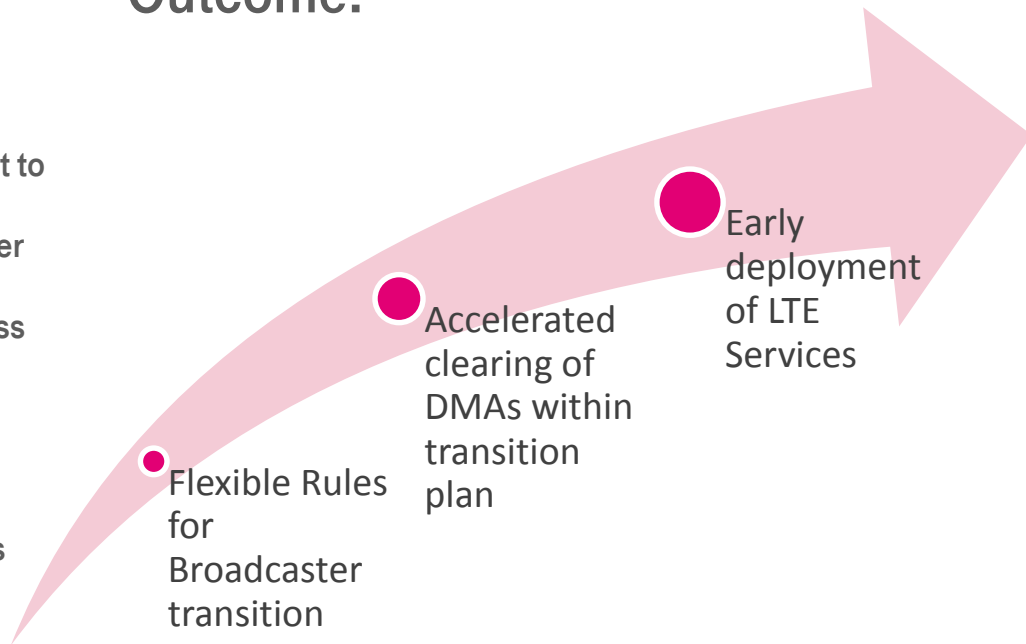
- **Impact:**

- Idle resources (crews, antenna manufacturers) put to work with immediate benefit;
- Breaks daisy chains and cycles (A1 and A no longer need to coordinate or rely on phase assignment);
- No interference above 2% temporary target (unless broadcasters voluntarily accept elevated levels);

- **Additional Impact if moving to AUX:**

- less supply-constrained than Main, quicker to produce
- Easier and shorter install for tower crew resources
 - Each AUX takes ~1 week, Main can take 4+ weeks
- Gives broadcaster flexibility for main deployment
- Gives broadcaster time to do Major Mods;
- Gives broadcaster time to wait for ATSC 3.0

Outcome:



Broadcast Facilities Modifications & Anti-collusion Rules

Expanded Facilities: Treatment of Facilities Modifications

- Broadcast industry experts indicate that many broadcasters will seek expanded facilities post-IA via minor modification application (“Minor Mods”). Some, where seeking channel changes, will require applications for major modification of facilities (“Major Mods” and, together with Minor Mods, “Facilities Mods”).
- The Transition mandates that stations to first seek a construction permit for the new channel assignment to replicate prior facilities (their “Initial CPs”) before filing for a Facilities Mod. Stations seeking Facilities Mods, however, may find little incentive to build the Initial CPs because of the cost to build twice (relocation reimbursement only being available for one post-auction facility).
 - Broadband auxiliary facilities could help ameliorate this issue.
- T-Mobile urges the FCC to employ proactive tactics to deal with the possibility of Transition Plan delays caused by Facilities Mod stations, including the adoption of processing prioritizations and incentives for different Facilities Mods to expedite clearing of the 600 MHz band.

Processing Priorities for Facilities Mods

1. Prioritize exiting the 600 MHz band.

- In keeping with the FCC's primary transition priority of clearing the new 600 MHz band, Facilities Mods filed by stations located in the 600 MHz band should be given processing priority *provided that* they move to alternate facilities (whether auxiliary, temporary channel, or channel-sharing) prior to the station's Phase Deadline.

2. Prioritize combined facilities.

- Where stations can demonstrate that their Facilities Mod seeks combined facilities with another broadcaster, and that the combination will result in more efficient use of spectrum, lower relocation costs, and/or faster overall transition time, the FCC should prioritize processing of such Facilities Mods.

3. De-prioritization of Facilities Mods for stations operating on prior facilities.

- The FCC must make clear that stations demonstrating (a) little effort toward construction of their Initial CPs and (b) no effort to use temporary facilities will have their Facilities Mods moved to the *end of the processing line*. It is imperative that the FCC implement such a penalty to incentivize stations to construct according to the Transition Plan and avoid the potential for cascading delays.

Clarification on Anti-collusion Rules

- Broad support in record to clarify the existing anti-collusion rules permit discussion of post-IA transition issues among broadcasters and wireless companies.
- Once the Final Stage Rule has been satisfied, there is little risk of harm and abundant benefit for expansive communications between wireless companies and broadcasters, so long as basic safeguards are followed to prevent disclosure of forward auction bidding strategies.
- All discussions would be voluntary at the discretion of the broadcasters and wireless companies.